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THE 1993 FORAY: CHEATHAM COUNTY, TENNESSEE

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Information on breeding birds of Cheatham County, Tennessee, has been published since at least the late 1930s (Ganier 1938, Anonymous 1941). Since that time, reports of breeding bird activity have primarily documented unusual species occurrences (e.g. Bell 1955, Stedman 1983) or single species population dynamics (e.g. Laskey and Herbert 1971). Although the Tennessee Breeding Bird Atlas provides systematic, statewide information regarding distribution and abundance, its goal was not to attempt comprehensive county surveys (see Nicholson, in press).

Breeding birds were surveyed in Cheatham County in 1993 during the spring foray, and in other counts throughout the nesting season. The objectives of this paper are to (1) present relative abundance and species richness of breeding birds in Cheatham County in 1993, and (2) quantify the relative abundance of species in typical habitats of the Cheatham Wildlife Management Area (WMA) and (3) include notes on selected species encountered in 1993 and earlier years.

DESCRIPTION OF CHEATHAM COUNTY, TENNESSEE

Cheatham County occupies approximately 791 km^2 (305 square miles) in Middle Tennessee, in the western Highland Rim, Interior Low Plateau Physiographic Province (Figure 1). The western Highland rim is characterized by rolling to steep topography, dissected by small streams, and has moderate elevation and climate. Forests occupy approximately 61% of the total land area of the county; upland oaks (*Quercus spp.*) and hickories (*Carya spp.*) dominate these forests (Vissage and Duncan 1990). Current forest conditions reflect significant impacts by the iron ore industry and other uses in the late 1800s and early 1900s (Clatterbuck 1990).

The northern third of Cheatham County in 1993 was dominated by pasture, hay fields and row crops, with scattered small woodlots and narrow riparian zones. Open water habitats occurred at Cheatham Dam and along the Cumberland River. The central and southern portions of the county were more heavily forested than the northern, with residential areas more common in the southern third.

FIG. 1. The location of Cheatham County and Cheatham Wildlife Management Area (WMA) in Tennessee (adapted from Tennessee Wildlife Resources Agency 1993).

The Cheatham Wildlife Management Area (WMA) is located centrally in the county and occupied 7,955 ha. The WMA was 97% forested (forest habitats ranged from 1-80 years old) and 3% open fields (Tennessee Wildlife Resources Agency 1993).

Human population was 27,164 in 1990 and is expected to grow to 40,000 by the year 2010 (Greater Nashville Regional Council 1993).

METHODS

General observation and specific searches of uncommon habitats, miniroutes, and point counts were conducted to census birds in Cheatham County from 28 May through 7 July 1993. The 1993 Foray dates were 28-31 May.

Observers recorded daily lists of birds to include birds observed between and after miniroutes and point counts, during searches of uncommon habitat, and the results of five nocturnal counts. Uncommon habitats in the county were identified from personal knowledge of local observers and examination of topographic maps.

Thirteen roadside counts (miniroutes) were distributed throughout the county and in a variety of habitats. Following the protocol of the Tennessee Breeding Bird Atlas project (Nicholson, in press), each miniroute involved 15 three-minute stops where presence of bird species was recorded.

Point counts were conducted at 144 habitat specific locations in hardwood forests (75 points), regenerating forests less than 10 years old (48 points), and wildlife openings, small plots maintained in food crops for wildlife (21 points) on Cheatham WMA. Points were distributed in approximate proportion to habitat availability on the WMA. Each point was numbered and marked with orange paint on the nearest tree, orange flagging, and a wooden stake prior to being censused. Point counts were distributed on a variety of secondary roads, logging roads, trails and off roads in such a way that observers could complete a route of 12-18 counts per morning.

Observers censused birds at each point once for 5 minutes during the first four hours after sunrise. Observers differentiated among individuals heard or seen (1) during the first 3 minutes and last 2 minutes and (2) within 50m or outside of 50m. This protocol follows national standards for point counts (Ralph et al. 1993).

For this paper, we analyzed point count data from only the first 3 minutes and totaled all birds regardless of distance to observer. Counts will be repeated in future years and analysis of these data will combine years and include the total five-minute count and distance estimates. These data will be housed at the Tennessee Wildlife Resources Agency to assist wildlife management decisions and will be published periodically (s ee Ford 1993).

RESULTS

Ninety-seven species were recorded in Cheatham County between 28 May and 7 July 1993 (Appendix I). The Tufted Titmouse, Northern Cardinal, Indigo Bunting, and Field Sparrow were the most abundant species. Seventeen species were recorded less than three times; among the most notable of these was a nesting Common Moorhen.

Two nocturnal counts were conducted during the Foray on 30 May and included Barred Owl, Whip-poor-will, and Eastern Screech-Owl. Three other nocturnal counts conducted during June revealed no additional species.

APPENDIX 1. Birds detected during surveys in Cheatham County, Tennessee, from 28 May through 7 July 1993. Total numbers represent the total number of individuals observed. Miniroute results represent the number of miniroutes where a species was observed at least once (n = 13 miniroutes) and the total number of stops a species was observed (n = 195 stops). Point count data represent the total number of individuals on all point counts (n = 144 point counts), forests less than 10 years old (n = 48 point counts), and wildlife openings (n = 21 point counts).

species		Miniroutes		Point Counts			
	Total numbers	Total miniroutes	Total stops	Total	Red Oak White Oak	Forests < 10 yrs	Wildlife openings
Great Blue Heron	3	-	-	-	-	-	-
Green Heron	5	1	1	-	-	-	-
Black-crowned Night-Heron	1	1	1	-	-	-	-
Canada Goose	22	-	-	-	-	-	-
Wood Duck	3	-	-	-	-	-	-
Mallard	2	-	-	-	-	-	-
Black Vulture	9	-	-	-	-	-	-
Turkey Vulture	18	1	1	2	-	2	-
Red-shouldered Hawk	2	-	-	-	-	-	-
Broad-winged Hawk	2	-	-	-	-	-	-
Red-tailed Hawk	6	1	1	-	-	-	-
American Kestrel	5	2	2	-	-	-	-
Wild Turkey	2	-	-	-	-	-	-
Northern Bobwhite	46	11	38	4	1	1	2
Common Moorhen	1	-	-	-	-	-	-
Killdeer	10	3	7	-	-	-	-
American Woodcock	1	-	-	-	-	-	-
Rock Dove	10	2	2	-	-	-	-
Mourning Dove	90	12	72	18	2	14	2
Yellow-billed Cuckoo	51	7	30	21	15	5	1
Eastern Screech-Owl	2	-	-	-	-	-	-
Barred Owl	2	-	-	1	1	-	-
Whip-poor-will	2	-	-	-	-	-	-
Chimney Swift	43	9	26	5	-	4	1
Ruby-throated Hummingbird	7	1	1	1	-	1	-
Belted Kingfisher	3	2	2	-	-	-	-
Red-headed Woodpecker	4	2	2	2	-	1	1
Red-bellied Woodpecker	25	13	55	31	19	11	1
Downy Woodpecker	33	8	18	12	9	3	-
Hairy Woodpecker	6	1	2	-	-	-	-
Northern Flicker	17	9	14	1	1	-	-
Pileated Woodpecker	15	4	4	10	8	2	-
Eastern Wood-Pewee	77	10	27	42	20	16	6
Acadian Flycatcher	46	8	17	19	17	2	-
Willow Flycatcher	1	-	-	-	-	-	-
Eastern Phoebe	12	8	11	1	-	1	-
Great Crested Flycatcher	21	4	4	11	3	7	1
Eastern Kingbird	21	9	14	-	-	-	-
Purple Martin	5	1	2	-	-	-	-
Northern Rough-winged Swallow	23	4	17	-	-	-	-
Cliff Swallow	9	2	2	-	-	-	-
Barn Swallow	22	9	13	-	-	-	-
Blue Jay	82	12	25	23	14	5	4

American Crow	59	13	48	11	-	8	3
Carolina Chickadee	69	9	28	11	7	4	-
Tufted Titmouse	243	13	80	52	28	19	5
White-breasted Nuthatch	37	7	12	14	8	5	1
Carolina Wren	96	12	58	32	18	13	1
Blue-gray Gnatcatcher	102	6	25	37	19	13	5
Eastern Bluebird	43	12	40	3	-	1	2
Wood Thrush	41	7	11	19	18	1	-
American Robin	53	12	45	1	1	-	-
Cedar Waxwing	1	-	-	1	-	1	-
Gray Catbird	4	2	3	-	-	-	-
Northern Mockingbird	83	12	64	-	-	-	-
Brown Thrasher	7	5	7	-	-	-	-
Loggerhead Shrike	6	2	2	-	-	-	-
European Starling	45	9	32	-	-	-	-
White-eyed Vireo	82	9	27	29	3	25	1
Yellow-throated Vireo	6	1	1	5	4	1	-
Warbling Vireo	3	2	2	-	-	-	-
Red-eyed Vireo	46	11	17	29	25	3	1
Blue-winged Warbler	8	-	-	6	-	5	1
Northern Parula	13	5	11	-	-	-	-
Yellow Warbler	2	1	1	-	-	-	-
Chestnut-sided Warbler	5	-	-	-	-	-	-
Yellow-throated Warbler	16	3	4	8	5	3	-
Pine Warbler	2	-	-	-	-	-	-
Prairie Warbler	43	4	6	30	2	27	-
Cerulean Warbler	5	1	1	1	1	-	-
Black-and-white Warbler	7	-	-	4	3	1	-
American Redstart	2	-	-	-	-	-	-
Prothonotary Warbler	5	1	1	-	-	-	-
Worm-eating Warbler	18	1	1	13	13	-	-
Ovenbird	12	-	-	8	8	-	-
Louisiana Waterthrush	7	1	1	1	1	-	-
Kentucky Warbler	16	4	5	8	5	2	1
Common Yellowthroat	64	10	37	9	-	7	2
Hooded Warbler	21	2	2	11	5	6	-
Yellow-breasted Chat	69	8	18	43	4	33	6
Summer Tanager	52	8	17	33	20	12	1
Scarlet Tanager	32	5	7	21	19	2	-
Northern Cardinal	135	13	93	34	20	11	3
Blue Grosbeak	8	5	7	-	-	-	-
Indigo Bunting	154	13	91	43	12	22	6
Rufous-sided Towhee	94	11	31	31	8	20	3
Chipping Sparrow	23	10	19	-	-	-	-
Field Sparrow	104	10	35	39	3	26	10
Grasshopper Sparrow	2	1	1	-	-	-	-
Red-winged Blackbird	58	11	39	-	-	-	-
Eastern Meadowlark	83	12	45	-	-	-	-
Common Grackle	70	11	58	1	-	-	1
Brown-headed Cowbird	74	10	14	40	16	19	5
Orchard Oriole	8	4	5	-	-	-	-
House Finch	1	1	1	-	-	-	-
American Goldfinch	84	9	39	15	2	7	6
House Sparrow	21	7	13	-	-	-	-

Seventy-five species occurred on 13 miniroutes. The range was 30-51 species, while the average was 37 species per miniroute. Average species richness was highest in the southern third of the county (Figure 2).

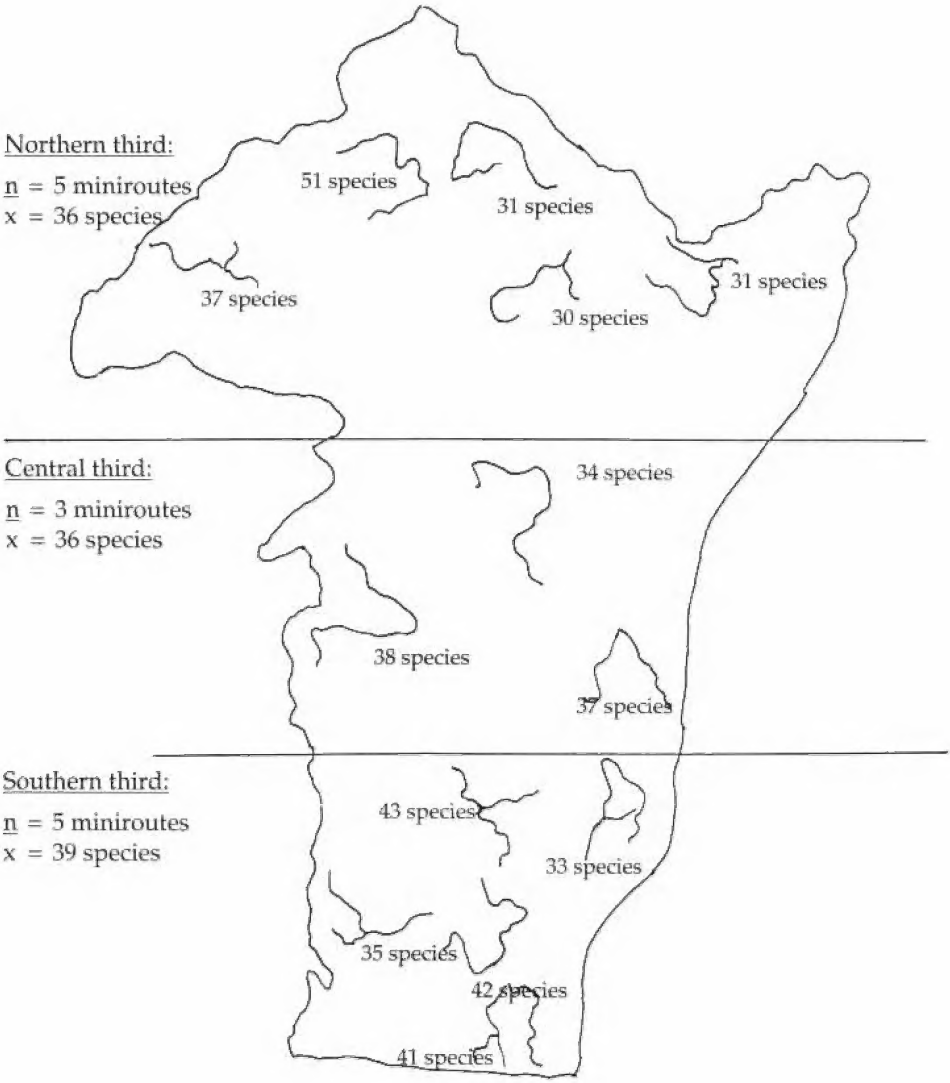

FIG. 2. The distribution of 13 miniroutes conducted in Cheatham County in 1993, including the total number of species per miniroute and the average number of species on miniroutes in the northern, central and southern thirds of the county.

The most frequent species on miniroutes were the Indigo Bunting, Northern Cardinal, Tufted Titmouse, and Mourning Dove. Each was recorded on at least 64 of 195 miniroute stops. Five species were distributed throughout the county and occurred on all miniroutes. These species were the Red-bellied Woodpecker, American Crow, Tufted Titmouse, Northern Cardinal, and Indigo Bunting.

On Cheatham WMA, 49 species occurred on 144 point counts. The highest species richness occurred in regenerating forests less than 10 years old, followed by mature hardwood forests and wildlife openings (Table 1). However, the five most abundant species of hardwood forest — Tufted Titmouse, Red-eyed Vireo, Summer Tanager, Eastern Wood-Pewee, and Acadian Flycatcher — differed from the most abundant species in forests less than 10 years old or wildlife openings — Yellow-breasted Chat, Prairie Warbler, Field Sparrow, White-eyed Vireo, Brown-headed Cowbird, Indigo Bunting, and American Goldfinch.

Fifteen species were recorded during random observations and not found on miniroutes or point counts. These represent species concentrated by habitat type (e.g. open water) and/or difficult to quantify because of rarity or behavior.

TABLE 1. Birds detected on point counts at Cheatham WMA in 1993. Point counts were classified by habitat to include mature hardwoods, forests less than 10 years old, and wildlife openings. Data are presented for subunits within each of these broad classifications. Habitat classes were mapped by the Tennessee Wildlife Resources Agency's Geographic Information System (John Gregory, pers. comm.).

Habitat classification	Total species	Average number/count species	individuals
Mature forests	40	6.9	6.9
Red Oak-White Oak-Hickory	39	5.6	6.4
Red Oak-White Oak-Poplar	27	6.9	6.4
White Oak	22	4.8	5.7
Streamside Zones	7	5.0	7.0
Forests <10 years	44	8.2	10.6
Upland hardwoods	37	8.1	10.1
Yellow pine	34	8.4	11.6
Cove hardwoods	29	7.7	10.2
Wildlife openings	30	6.6	7.1
Corn field	25	7.5	9.9
Annual mix	9	4.5	5.5
Bushhogged field	4	4.0	6.0
Wheat/clover	5	5.0	22.0

DISCUSSION

Abundant breeding birds in Cheatham County were those of fields and small woodlots, especially in the northern third, while counts at the WMA recorded species of forested habitats. Eastern Kingbird, Loggerhead Shrike, Grasshopper Sparrow, Blue Grosbeak, Eastern Meadowlark, and Red-winged Blackbird were not detected on counts at the WMA. Alternatively, Black-and-white Warbler, Ovenbird, and Worm-eating Warbler were not detected during miniroutes. This may be a bias caused by different census techniques; future counts should clarify species distributions.

All of the birds observed in 1993 were probably nesting in the county, with the possible exception of Great Blue Heron and Black-crowned Night-Heron, which may have wandered from nesting locations in adjacent counties, and Chestnut-sided Warbler, a late transient. The Common Moorhen was among the most notable of observations. One adult was first observed at Herbert Bottoms on 5 June 1993. The report of three adults with three young confirmed on 26 June 1993 (Gilbert Foster, pers. comm.) was apparently the first nesting record in Cheatham County.

One Cedar Waxwing was observed on the WMA in June in a mixed pine-hardwood stand. Although no nesting evidence was observed, this species has nested in the county (Nicholson, in press).

Several species have been documented as breeding in Cheatham County in the past, but were not detected during the 1993 census. At least three probably do not nest annually in Cheatham County. These include Spotted Sandpiper (Weise 1955), Swainson's Warbler (see Parmer 1975), and Least Bittern (Bell 1955). Other species probably nest annually in the county but were not detected in 1993. For example, both Sharp-shinned Hawks (e.g. Ganier 1938) and Cooper's Hawk have been found nesting (Gilbert Foster, pers. comm.). Two Barn Owls were hacked in Ashland City in 1983 (Stedman 1983).

The Great Horned Owl and Chuck-will's-widow are unusual, but regular, nesting species in the county. The Common Nighthawk is known consistently from one location in Ashland City (Gilbert Foster, pers. comm.). The Dickcissel has been present in most recent years at Cheatham Dam and other locations. Bewick's Wrens have occurred in Cheatham County sporadically and were noted as early as 1941 (Anonymous 1941). Only one Bewick's Wren location is currently known, and nesting has not been confirmed there (Gilbert Foster, pers. comm.).

Several species observed in Cheatham County during past breeding seasons, but without evidence of nesting, include the American Coot (Bell 1955), Cattle Egret (see Parmer 1975), Blue-winged Teal (Stedman 1984), and Song Sparrow (Stedman 1983).

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The Migrant, 64 (4): 82, 1993.

WEATHER RELATED BIRD MORTALITY IN UNICOI COUNTY, TENNESSEE

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On the night of 23-24 September 1992, a bird kill occurred on Taylor Road in Coffee Ridge, about 14 km southwest of Erwin in Unicoi County, Tennessee. The site is in a mountain clearing at an elevation of 900-915 m, but well below the ridge top. A cold front passed through the region during the night with rain, fog and a sharp drop in temperatures which grounded many nocturnal migrants. A security light between two houses attracted and disoriented the birds. Residents described birds "falling from the sky like rain," swirling around, calling loudly, and hitting the roof and windows. One resident said that it reminded her of scenes from Alfred Hitchcock's movie "The Birds," a rather unsettling situation. At dawn there were still numerous birds flying around.

Personnel from the state fish hatchery in Erwin responded to a call on 24 September and picked up about 150 dead birds, which were later given to me. I was notified on 25 September and visited the site on the following day, picking up another 350 birds. Insects, mainly ants (*Formicidae*) and yellow jackets (*Vespinae*), had been eating on the carcasses and there was evidence of scavengers removing others. Even more than two days after the incident, I found two injured birds at the site — a Northern Waterthrush and a Savannah Sparrow.

Unlike many nocturnal bird kills, this site lacked a tall structure, such as a television tower. The birds struck the one-story buildings and even flew straight into the ground. A couple of dead birds were unretrievable from a shed roof. Many carcasses were picked up in a recently mowed field between the two houses, mostly within a 50 m radius from the light. Similarities to other bird kills included inclement weather at night, an artificial light source, and only Neotropical migrants involved.

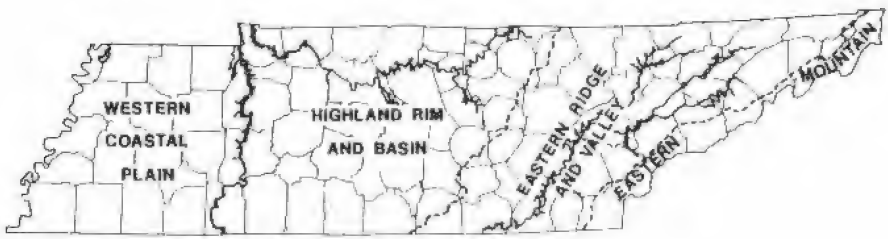
Birds killed: Black-billed Cuckoo-1, Yellow-billed Cuckoo-1, Veery-12, Gray-cheeked Thrush-19, Swainson's Thrush-151, Wood Thrush-8, Gray Catbird-10, Red-eyed Vireo-4, Tennessee Warbler-29, Chestnut-sided Warbler-6, Magnolia Warbler-2, Cape May Warbler-41, Black-throated Blue Warbler-36, Blackburnian Warbler-8, Yellow-throated Warbler-1, Prairie Warbler-3, Palm Warbler-4, Black-and-white Warbler-5, American Redstart-16, Worm-eating Warbler-2, Swainson's Warbler-1, Ovenbird-80, Northern Waterthrush-4, Kentucky Warbler-6, Common Yellowthroat-6, Hooded Warbler-3, Canada Warbler-1, Scarlet Tanager-15, Indigo Bunting-7, Savannah Sparrow-3, Bobolink-2, warbler sp.-2, unknown-3. *Total:* 493 birds of 31 species.

My thanks to those who reported this incident, especially the Edwards family, Frank Higgins, and Johnny Lynch. Julie Tomita, Jennifer Wilson, and Tom McNeil helped sort and count the carcasses. Some specimens were given to the biology departments of Milligan College and East Tennessee State University; the rest were buried.

The Migrant, 64 (4): 83-90, 1993.

THE SEASON

ROBERT P. FORD, Editor



SUMMER: 1 JUNE-31 JULY 1993

The summer 1993 season was distinguished by unusual nest records and hot, dry weather. A well-documented Golden Eagle nest in Jackson County marked the highlight of the nesting season in Tennessee. Other nesting species included a Yellow-rumped Warbler just outside of Tennessee, in North Carolina, and the first Common Moorhen nesting in middle Tennessee. Good nesting success continues for Black-necked Stilts; their numbers and range continue to grow near the Mississippi River. June observations of Double-crested Cormorant are increasing across the state.

However, nesting may not have been as successful for many of the more regularly nesting species in Tennessee. The weather event for the nation was the unparalleled amount of rain and flooding in the upper Mississippi River watershed. Further south, however, in Tennessee, regional compilers noted a hot and dry summer. In west Tennessee, flooding from upriver impacted nesting success of the Least Tern, and possibly many other ground nesting birds in floodplain habitats. The effects of the dry summer on other birds across the state are not well known.

Unusual records of wandering species this summer included the state's third record of White-tailed Kite, an unusually high number of documented summering waterfowl, a Painted Bunting in east Tennessee, and Glossy Ibis.

This summer marked the beginning of specific bird and habitat monitoring programs for *Partners in Flight*, a project especially for long distance migrants. Census results will be housed with the Tennessee Wildlife Resources Agency, the Tennessee Ornithological Society, and will be published in *The Migrant* as possible.

Abbreviations used in this report include: ad-adult; Co.-county; EOP-end of period; ers-earliest reported sighting this season; et al.-and others; f-female; fide-reported by; im-immature; lrs-latest reported sighting this season; m-male; max-maximum count on one day; m.ob.-many observers; yg-young; *-details submitted.

WESTERN COASTAL PLAIN REGION — Extreme flooding and a wet season north of Tennessee may have accounted for the low number of birds observed in seasonally wet areas of the Mississippi River counties of west Tennessee. However, the area did host a few rare summer visitors: the White Ibis, Glossy Ibis, Whimbrel, and a more frequent visitor to our area, the Tricolored Heron. A few ducks, the

Northern Shoveler, Canvasback and Lesser Scaup enjoyed the flooded fields and bottomlands. A few early and later dates for the Black-bellied Plover, Semipalmated Plover, Greater Yellowlegs, and the Wilson's Phalarope attracted the attention of the field observers.

Among other notable observations in the region, the Mississippi Kite is straying further from the bottomland forests where it has nested to the dryer and more urban areas. The Black-necked Stilt was reported in several river counties in Mississippi, Arkansas, and Tennessee (JPR), and a first nesting site for Kentucky was observed this year on Sassafras Ridge (WGC). The Least Tern lost many of its nests and young to the quickly rising flood waters of the Mississippi. Many nesting attempts were made in fields but many of those nests were lost to disking and later nesting attempts to flooding (JPR).

Grebe-Moorhen: Pied-billed Grebe: 14 Jun-EOP (2) TEC; 19 Jun (1) Rlft L S P (WGC), 16 Jul (1) Shelby Farms (MLG). Least Bittern: 14 Jun-EOP (4 max) Allen St Pl (MLG, TAF, MGW, CHB). Little Blue Heron: 1 Jun (211) Lake Co. (WGC). TRICOLORED HERON: 10 Jun (2) Lwr Hatchie NWR (CHB, BHW, MGW, LVZ). Cattle Egret: 8 Jul (150 nests), nests were low in willows, south end of Ensley Bar, Shelby Co. (JPR), possibly destroyed by the rising water. Two heronries with Little Blue, Great Blue, Great Egret, and Yellow-crowned Night-Herons were observed on two tracts in north Shelby Co. Black-crowned Night-Heron: 1 Jun-EOP (1-7 ad, 2 im) Lake Co. (WGC); 6 Jun/27 Jul (4 ad/1 ad) Dyer Co.(WGC). White Ibis: 13-17 Jul (1 im) Dyer Co.(WGC). GLOSSY IBIS: 24 Jun (2 ad) Lake Co.; 28 Jun/18 Jul (1 ad) Dyer Co.(WGC), second June record, first for Dyer. Northern Shoveler: 1-10 Jun (1 m-pair) Lake Co. (WGC). Canvasback: 30 Jun (1) Lwr Hatchie NWR (Mike Ilemni, USFW). Lesser Scaup: 17 Jul-EOP (1 m, eclipse plumage) Shelby Farms (MLG). Osprey: 29 Jun (2) Rlft L (WGC). Mississippi Kite: 5 Jun (49) Burnt Woods, Rlft L, Lake Co. (WGC); 10 Jun (28) Lwr Hatchie NWR (CHB, BHW, MGW, LVZ); 30 Jun (1) Fisherville, Shelby Co. (Len Lothstein), eastern most records in Shelby and Tipton Cos. Bald Eagle: 5 Jun (1 ad, 3 yg), 24 Jun (2 yg perched on dead trees near nest) levee in KY, just north of TN line (WGC). Cooper's Hawk: 27 Jun (1) Decatur Co. (CHB); 23 Jul (1) Shelby Co. (MGW). Peregrine Falcon: Five captive bred Peregrine Falcons were hacked this summer in downtown Memphis; the birds were placed in a hacking box on 5 July, an article is in preparation for *The Migrant*. Common Moorhen: 12-14 Jun (3) TEC (VBR, MGW, MLG, m.ob.); 19 Jun (pair with young) Rlft L S P (WGC).

Shorebirds: The individual number of each species was down considerably from previous years. Perhaps the flooding to the north of Tennessee attracted the migrating shorebirds to the flooded fields and mudflats. The observers for the EARTH Complex (TEC) were CHB, TAF, MLG, RDH, DoM, RWP, WRP, VBR, DLW, BHW, MGW. Black-bellied Plover: 10/15 Jun (1) Dyer Co. (WGC), late migrant. American Golden-Plover: 17/21 Jul (1) Dyer Co. (WGC). Semipalmated Plover: 8/27 Jul (1/2) Lake Co. (WGC), early west TN; 18 Jul (24) TEC. Black-necked Stilt: 4 Jun (1), 5 Jun (6 ad, 1 nest, 3 eggs), 6 Jun (8 ad, 3 nests), 10 Jun (5 ad), 15 Jun (3 ad), 19/20 Jun (none found) Lake Co., wet area dried up, this is the first nest site for Lake Co., but apparently unsuccessful; 17 Jul (1) Lake Co. (WGC); 19/24 Jun (8 ad, 16 downy yg/4 ad, no yg) Sassafras Ridge, KY, just north of TN line, first nest site for KY; 28

Jun (4) H103 and Great River Rd, Dyer Co. (WGC); 9 Jun-EOP (52+ad, 75+yg) TEC, record year for yg; a pair and one immature were observed in West Memphis in late July, a first report for Crittenden County, Arkansas (JPR). Greater Yellowlegs: 3 Jul (1) TEC (CHB, RDH, DoM, VBR, MGW), early west TN. Lesser Yellowlegs: 14 Jun (1) TEC; 23 Jun (1) Lake Co., 28 Jun (4) Dyer Co. (WGC), rare summer visitor. Solitary Sandpiper: 18 Jul (12) TEC. Spotted Sandpiper: 4 Jun (1) Lake Co. (WGC). WHIMBREL: 1 Jun (1) Lake Co. (WGC), second Lake Co. record. Western Sandpiper: 14 Jun-EOP (11) TEC; 8-27 Jul (20 max) Lake Co., 13 Jul-EOP (3) Dyer Co. (WGC). White-rumped Sandpiper: 1/6 Jun (1/1) Dyer Co. (WGC). Baird's Sandpiper: 22/27 Jul (1) Lake Co. (WGC). Stilt Sandpiper: 27 Jul (43 max) Lake Co. (WGC). Dowitcher sp.: 12/22 Jul (3) Lake Co., 17/27 Jul (1) Dyer Co. (WGC). Common Snipe: 13/27 Jul (1) Dyer/Lake Cos. (WGC). Wilson's Phalarope: 8 Jul (1) Burnt Woods, Rlft L, Lake Co. (WGC), early west TN.

Gull-Sparrow: Herring Gull: 5 Jun (1) Is 13 (WGC). Caspian Tern: 1-4 Jun (1) Levee Rd., Lake Co. (WGC). Forster's Tern: 7 Jul (7) Shelby Farms (MLG). Black Tern: 8 Jul (2) Shelby Farms (MLG); 27 Jul (15) Lake Co. (WGC). Least Tern: early Jul-EOP, nesting attempts were made on many islands on the Mississippi River, but rising water later destroyed most of the nest sites. There were many attempts on land on both sides of the river, but only a few of the sites were successful (JPR). Willow Flycatcher: 13 May (1) Allen St Pl (CPN). Swallow species: 12 Jul (1000's) Lake Co. (WGC), mixed species. Bank Swallow: 10 Jun (50+) First Chickasaw Bluff (CHB, BHW, MGW, LVZ); 15 Jun (233, about 400 holes, half seemed to have been occupied), Carson Tract, Lauderdale Co. (CHB, MGW); 3/22 Jul (200) Lake Co. (WGC). Cliff Swallow: 15 Jun (1) Carson Tract, Lauderdale Co. (CHB, MGW). Philadelphia Vireo: 13 May (3, 1 f) Allen St Pl (CPN). Wilson's Warbler: 13 May (1 f) Allen St Pl (CPN). Scarlet Tanager: 26/27 Jun (1) Decatur Co. (CHB). Painted Bunting: 13 May-EOP (1 m, pair) Allen St Pl (CPN). Chipping Sparrow: 5 Jun (2) Madison Co. (Joyce Campion). Song Sparrow: 3 Jul-EOP (2 pair) TEC. White-throated Sparrow: 27 Jun (1 trapped and banded; the bird was seen again 29/30 Jun, but not later [BBC]). An addendum to an article written by BBC in the March 1985 issue of *The Migrant* stated that this species was present from 1 Aug 1981 thru 27 April 1982 and was retrapped ten times during that time, not the two reported here. White-crowned Sparrow: 13 May (3) Allen St Pl (CPN).

Locations: Allen St Pl-Allen Steam Plant, Shelby Co.; Is 13-Joe Echles Towhead, Lake Co.; Lwr Hatchie NWR-Lower Hatchie NWR, Tipton Co.; Shelby Farms-Shelby Farms was Penal Farm, Shelby Co.; Rlft L-Reelfoot Lake, Obion Co. and Lake Co.; TEC-The EARTH COMPLEX was Ensley Bottoms, Shelby Co.

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HIGHLAND RIM AND BASIN REGION — Summer in the region brought two exceptional breeding records: the first area record for Common Moorhen in Cheatham County with at least four young fledged, and the first confirmed record for the entire southeastern United States with the successful nesting of Golden Eagles in Jackson County. A strong cold front passed through the state on 31 May and 1 June, after which a White-tailed Kite was seen briefly in Rutherford County. From the scant

number of records received, there seemed to have been few observers in the field. We can only wonder what other unusual birds were present in the region who managed to avoid detection.

Cormorant-Eagle: Double-crested Cormorant: 11 Jul (8), 18 Jul (11) Gallatin S.P. (FJM, CAS, GAF); first Nashville area summer records. Least Bittern: 18 Jul (1) Gallatin S P (FJM, CAS). Great Blue Heron: 13-26 Jun, 4 active nests, Old Hick L. heronry (FJM, DN), second season for nesting in Nashville area, same location. Great Egret: 13 Jun (1) Old Hick L (FJM); 11 Jul (13) Gallatin S P (FJM, CAS); 18 Jul (4) Gallatin S P (GAF, FJM, CAS). Little Blue Heron: 19 Jun (1 im) Sumner Co. (Lee and Hazel Kramer); 11 Jul (4 im) Gallatin S P (FJM, CAS); 18 Jul (1 ad, 2 im) Gallatin S P (GAF, FJM, CAS). Cattle Egret: 13 Jun (30 active nests) Old Hick L heronry (FJM); 18 Jul (100+) Old Hick L heronry (GAF, FJM, CAS). Black-crowned Night-Heron: 13 Jun (150 nests) Old Hick L heronry (FJM); 18 Jul (10+), all young fledged Old Hick L heronry (GAF, FJM, CAS). Wood Duck: 2 Jun (2) Dav. Co. (MLM). Gadwall: 7 Jun (1 m), Mon Pond (SJS), rare summer. Ring-necked Duck: 7 Jun (1 f) Mon Pond (SJS), rare summer. Hooded Merganser: 19 Jul (1 f) Putnam Co. (SJS), second County summer record. COMMON MOORHEN: Jun-2 Jul (2 ad with at least 4 yg) Cheat. Co., first area nesting record (Joe Stone, m.ob.). Black Vulture: 13 Jun (nest with 2 large yg) Old Hick L (FJM). Turkey Vulture: 30 Jul (30) Dav. Co. (MLM). Osprey: 2 Jun (1) Williamson Co. (SJS); 10 Jun (1) Dav. Co. (MLM), 18 Jul (2) Gallatin S.P. (GAF, FJM, CAS); increasing nester in region. Cooper's Hawk: 4-19 Jun (nest with 2 yg) Sumner Co. (DN, Grace Newton); 12 Jun (1) Cheat. Co. (SJS). WHITE-TAILED KITE: 1 Jun (1) Ruth. Co., seen hunting over recently cut hayfield, video taken adequate for identification; third state record (*George Murphy). GOLDEN EAGLE: Jun (nest with 2 yg) Cordell Hull Lake, Jackson Co., details to be published in a future article in *The Migrant* (Bob Hatcher, m.ob.).

Yellowlegs-Waxwing: Greater Yellowlegs: 11 Jul (1) Gallatin S P (FJM, CAS). Spotted Sandpiper: 8 Jun (1 ad with 3 yg) Williamson Co. (SJS), first county breeding record; 11 Jul (2) basic plumage, Gallatin S P (FJM, CAS). Least Sandpiper: 11 Jul (2) Gallatin S P (FJM, CAS). American Woodcock: 26 Jun (1) Clay Co., (SJS, Terry Campbell, Henry Van Essen). Caspian Tern: 18 Jul (1) Gallatin S P (GAF, FJM, CAS). Black-billed Cuckoo: 3 Jul (1) calling bird, no evidence of nesting, AEDC (DLD). Barn Owl: 12 Jun, 6 Jul (1) Warren Co. (SNM). Red-headed Woodpecker: 11 Jun (1) Perry Co. (FJM). Scissor-tailed Flycatcher: 10 Jun (1) Coffee Co. (Erma Rogers, Ruth Luckadoo). Purple Martin: 18 Jul (2000) Gallatin S P (GAF, FJM, CAS). Tree Swallow: 7 Jun (4) Mon Pond (SJS); 13 Jun (4) Old Hick L heronry (FJM). Cliff Swallow: 11 Jun (50-75 active nests) Wayne Co. (FJM); 12 Jun (20) Cheat. Co. (SJS). Bewick's Wren: 2 Jun (4 singing) Williamson Co. (SJS). Swainson's Thrush: 1 Jun (1) Warner Parks, Dav. Co., (MLM, Katherine Goodpasture). Cedar Waxwing: birds present throughout count period with nesting noted by several observers; uncommon summer resident; high count, (6) on 21 Jul Ruth. Co. (TJW, m.ob.).

Vireo-Finch: Warbling Vireo: 12 Jun (1) Cheat. Co. (SJS). Blue-winged Warbler: 3 Jun (1) Putnam Co. (RWS). Northern Parula: 11 Jun (18) Buffalo River in Wayne and Perry Co. (FJM). Yellow-throated Warbler: 11 Jun (12) Wayne and Perry Cos. on Buffalo River (FJM). Cerulean Warbler: 3 Jun (1) Putnam Co. (RWS). Blue Grosbeak: 12 Jun, 7 Jul (3) Warren Co. (SNM). Dickcissel: 7 Jun (4 singing m) Bedford Co. (SJS).

Lark Sparrow: 5 Jun (2) Cannon Co. (DLD). Grasshopper Sparrow: present in several locations during period; appeared to be a good year for this threatened species (SNM, SJS). Song Sparrow: 7 Jun (1) Bedford Co. (SJS); 11 Jul (3) Gallatin S P (FJM, CAS); small numbers nesting downtown Murfreesboro, Ruth. Co. (TJW). Bachman's Sparrow: 16 Jun (2) AEDC (TJW); 3 Jul (1) AEDC (DLD); rare nester in region. Red-winged Blackbird: 11 Jul (10,000) Gallatin S P; mixed flock with cowbirds, grackles, starlings (FJM, CAS). Orchard Oriole: 12 Jun (4), 6 Jul (2) Warren Co. (SM). Northern Oriole: Jun (1 singing m), Putnam Co. (SJS, BHS). Purple Finch: 10 Jun (1 ad m) Coffee Co. at feeder with House Finches (Frank Hernandez).

Locations: AEDC-Arnold Engineering Development Center, Coffee Co.; Cheat. Co.-Cheatham Co.; Dav. Co.-Davidson Co.; Gallatin S P- Gallatin Steam Plant, Sumner Co.; Mon Pond- Monsanto Ponds, Maury Co.; Old Hick L-Old Hickory Lake, Sumner Co.; Ruth. Co.-Rutherford Co.

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CUMBERLAND PLATEAU / RIDGE AND VALLEY REGION — This season could be best described as "The Long, Hot Summer." Although June had near normal temperatures, July was a real scorcher. The Johnson City area recorded 25 days of 90° F or higher in July, the most ever. Topping that, Chattanooga endured 38 consecutive days (extending into August) of 90°+ F. In many areas this July was the hottest month on record. The lack of rain compounded the effects of the heat. June precipitation regionwide was about 2-3 inches short of normal. The first half of July was essentially rainless. At Chattanooga, July was more than 3 inches below normal. Johnson City actually received 1/2 inch more than the monthly average, but all of that fell during the last 10 days of July.

The extreme heat apparently kept many observers indoors. How the region's breeding birds fared during the hot, dry conditions is unclear. Some, at least, seemed to do fairly well. Stedman tallied some impressive numbers of several forest species at Frozen Head SNA, in the Cumberland Mountains. Some were of rare, local breeders. A Painted Bunting near Chattanooga was apparently the first for the region.

Cormorant-Hawk: Double-crested Cormorant: 31 Jul (1) Rankin Bottoms, Cocke Co. (JAK). Great Egret: 24 Jun/5 Jul (1/2) Bra Lev (Barbara McMahan/RJH); 9 Jul (1) Austin Springs, Wash. Co. (RLK); 13 Jul (1) Cher. L (James Brooks); 13 Jul (6) Baylor L., Hmlt. Co. (Mary Lynn Buttram); 17 Jul (9) Hmlt. Co. (RJH); 22 Jul (1) Wash. Co. (RLK); 31 Jul (8) Rankin Bottoms, Cocke Co. (JAK). Little Blue Heron: 5 Jul (1) Bra Lev (RJH); 9-10 Jul (1 im) Steele Creek Park, Bristol (JWC); 13/17 Jul (8/11) Baylor L., Hmlt. Co. (Mary Lynn Buttram/RJH); 15-29 Jul (1-3 im) Nolichucky Waterfowl Sanctuary, Greene Co. (Don Holt, Jim Holt). Cattle Egret: 5-15 Jun (8) White Pine, Jefferson Co. (fide JAK). Yellow-crowned Night-Heron: 2 Jun thru period (1-5) Bra Lev (Barbara McMahan); 6 Jun (1) near Coalfield, Morgan Co. (SJS). White Ibis: 27 Jul (1 im) Nolichucky Waterfowl Sanctuary, Greene Co. (Jim Holt). Cooper's Hawk: 20 Jun (1) Wash. Co. (RLK).

Coot-Tern: American Coot: 17 Jul (1) Baylor L., Hmlt. Co. (RJH). Solitary Sandpiper: 10 Jul (1) Lst (RLK), ers. Willet: 16 Jul (1) Cher. L. (RM). Spotted Sandpiper: 4/

6 Jun (1) near Wartburg, Morgan Co. (SJS), probably a late migrant. Least Sandpiper: 17 Jul (1) Lst (RLK), ers. Pectoral Sandpiper: 30 Jul (2) Hiwassee River Area, Meigs Co. (RJH), ers. Dowitcher sp.: 16 Jul (2) Cher. L. (RM). Ring-billed Gull: 17 Jul (2) Chickamauga L., Hmlt. Co. (RJH). Forster's Tern: 10 Jul (5) Boone L., Sullivan & Wash. Cos. (RLK).

Swallow-Vireo: Cliff Swallow: colony at Picken's Bridge, Boone L., increased from 45 nests last year to 71 this year (RLK); 9 Jun (3+ with some nests) Alf Taylor Bridge, Nolichucky River, Wash. Co. (RLK). Brown-headed Nuthatch: 24 Jun (1) Sequatchie Co. (David F. Vogt), first county record. Veery: 6 Jun/11 Jul (7/3) Frz. Hd., at 2700-3000 ft. (SJS, BHS). Loggerhead Shrike: 9 Jun (pair with 1 fledged yg) Wash. Co. (RLK). Solitary Vireo: 6 Jun (9) Frz. Hd. (SJS), max.

Warbler-Oriole: Chestnut-sided Warbler: 6 Jun (1 m) Frz. Hd., at fire tower (SJS). Black-throated Blue Warbler: 6 Jun/3-25 Jul (7/2-3) Frz. Hd., at 2300-3000 ft. (SJS, BHS). Black-throated Green Warbler: 6 Jun (29) Frz. Hd. (SJS), max. Cerulean Warbler: 4/6 Jun (29/72) Frz. Hd., on different trails (SJS, BHS), new high count for state. American Redstart: 6 Jun (47) Frz. Hd. (SJS), max. Worm-eating Warbler: 4 Jun (15) Frz. Hd. (SJS), max. Ovenbird: 6 Jun (50) Frz. Hd. (SJS), max. Hooded Warbler: 6 Jun (30) Frz. Hd. (SJS), max. Canada Warbler: 11 Jul (2 m, 1 f, 2 unknown sex) Frz. Hd., between Tub Springs & Mart Field (SJS, BHS). 1 m was carrying food. Scarlet Tanager: 6 Jun (29) Frz. Hd. (SJS), max. Rose-breasted Grosbeak: 4/6 Jun (2/4) Frz. Hd. (SJS). PAINTED BUNTING: 12 Jul (1 m) near Soddy, Hmlt. Co. (Rick Waldrop), first East Tenn. record. Savannah Sparrow: 1 Jul (2, 1 singing) Lst (RLK). White-throated Sparrow: 6 Jun (1) Kingsport (Arthur Smith). Northern Oriole: 6 Jun (4) near Wartburg, Morgan Co. (SJS).

Addendum: Received late: BUFF-BREASTED SANDPIPER: 18 Apr (1) U.T. Plant Science Farm, Knox Co. (JAK), very rare in the state in spring. Tree Swallow: 3 Apr (pair at nest box) White Pine, Jefferson Co.; 23 May (1 at nest box) Little River, Blount Co. (both JAK). Mourning Warbler: 15 May (1) Maryville, Blount Co. (JAK).

Locations: Bra Lev-Brainerd Levee, Hamilton Co.; Cher. L.-Cherokee Lake, Hamblen Co. portion; Frz. Hd.-Frozen Head State Natural Area Morgan Co.; Hmlt. Co.-Hamilton Co.; Lst-Limestone, Washington Co.; Wash. Co.-Washington Co.

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EASTERN MOUNTAIN REGION - Precipitation was well below normal for the period. Temperature was above normal, reaching above 90 degrees almost every day in July.

Loon-Waxwing: Common Loon: 11-18 Jun (1, winter plumage) Ripshin L (RM et al.). Black-crowned Night-Heron: 28 Jun (2) S Hol L (JWC). Canada Goose: 18 Jun (pair with 6 large yg) Ripshin L (RLK), high elevation; good nesting season in northern part of the region. Black Vulture: 16 Jun (3) Little Milligan, Watauga Lake, Carter Co. (RLK). Sharp-shinned Hawk: 6 Jun (1) Alum Cave Bluff, Great Smoky Mountains National Park (RLK); 6 Jul (1) S Hol L (Richard Lewis). Cooper's Hawk: 13 Jun (1) Heaton Creek, Roan Mtn. (RLK); 11 Jul (1) Unaka Mtn (JWC). Northern Bobwhite: 13-21 Jul (1 calling) Roan High Knob, Roan Mtn. (RLK). Common Tern: 28 Jun (1) S Hol L (JWC). Northern Saw-whet Owl: 7 Jun (1 calling) Unaka Mtn (RM).

Willow Flycatcher: 13 Jun (3 singing) Shell Creek, Carter Co. (RLK); 8 Jun (1 singing) Mill Creek, Johnson Co. (RLK); 7/13 Jun (2 singing) Hampton Creek, Roan Mtn (JWN/RLK). Alder Flycatcher: thru 21 Jul (2) Carver's Gap, Roan Mtn (RLK); 7/13 Jun (1 singing) Hampton Creek, Roan Mtn (JWN/RLK), 3000 ft elev.; 11 Jun (1 singing) Unaka Mtn (RM), first record for this location. Eastern Phoebe: 21 Jul (1) Roan Mtn (RLK), at 6200 ft elev. in spruce-fir. Tree Swallow: 13 Jun (pair with 5 recently fledged yg) Ripshin L (RM). Common Raven: 8 Jun (1) Butler, Johnson Co. (RLK); 18 Jun (1) Ripshin L (RLK); 2 Jul (1) Rock Creek Park, Unicoi Co. (Brian L. Cross); usual numbers on Roan Mtn and Unaka Mtn. Carolina Chickadee: 3 Jul (1) Carver's Gap, Roan Mtn (RLK). Red-breasted Nuthatch: small number (<10) on Roan Mtn and Unaka Mtn. Brown Creeper: thru Jun and Jul (2) Roan Mtn (RLK). Ruby-crowned Kinglet: 13 Jun (1) Holston Mountain, Carter Co. (Gary O. Wallace, Frank Ward). Hermit Thrush: 13 Jun (1) Roan Mtn (Travis Knowles). Cedar Waxwing: 8 Jun (pair building nest) Doe Valley, Johnson Co. (RLK).

Vireo-Siskin: Solitary Vireo: 16 Jul (nest with 4 yg) Roan Mtn, NC side (John Gerwin, RLK). Red-eyed Vireo: 3 Jul (1) Carver's Gap, Roan Mtn (RLK). Blue-winged Warbler: 13 Jun thru end of month (2 territorial m) Poga, Carter Co. (Tom McNeil). Golden-winged Warbler: 5-6 pairs near base of Roan Mtn (RLK). Magnolia Warbler: 10+ m on Unaka Mtn (RM). YELLOW-RUMPED WARBLER: late Jun (f carrying nesting material) Roan Mtn (John Gerwin); 16 Jul (pair feeding yg in nest, 2 yg fledged) Roan Mtn, North Carolina side (John Gerwin, RLK), apparently first nesting south of West Virginia; details to be published. Blackburnian Warbler: 21 Jul (1) Roan Mtn (RLK). Prairie Warbler: 8 Jun (1) Johnson Co. (RLK); 13 Jun (1) Simmerly Creek, Carter Co. (RM). Cerulean Warbler: 5 Jul (1) Shady Valley, Johnson Co. (JWC, John Shumate). Black-and-white Warbler: 21 Jul (1) Roan Mtn (RLK), at 6200 ft. elev. American Redstart: 23 Jun (1 singing) Weaver's Bend, Cocke Co. (RLK). Swainson's Warbler: 5 Jul (1) Shady Valley, Johnson Co. (JWC, John Shumate). Summer Tanager: 13 Jun (1) Elk Mills, Carter Co. (Tom McNeil). Indigo Bunting: thru period (1 singing male) Roan High Knob (RLK). Vesper Sparrow: 8 Jun (1) Doe Valley, Johnson Co. (RLK); 8 Jun (3) Mill Creek, Johnson Co. (RLK); 26 Jun (1) Round Bald, Roan Mtn (Ed Schell). Savannah Sparrow: 8 Jun (4) Doe Valley, Johnson Co. (RLK); 13 Jun (1) Elizabethton, Carter Co. (Brian L. Cross). Red Crossbill: 7 Jun (28) Unaka Mtn (RM); 3 Jul (4) Roan Mtn. (RM); 16 Jul (2) Roan Mtn (RLK). Pine Siskin: 13-24 Jul (1 on nest) Roan Mtn, NC side (RLK), third NC nest record, details published in *The Chat*.

Locations: Ripshin L-Ripshin Lake, Carter Co.; Roan Mtn-Roan Mountain, Carter Co.; S Hol L-South Holston Lake, Sullivan Co.; Unaka Mtn-Unaka Mountain, Unicoi Co.

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OBSERVERS

CHB - Carolyn H. Bullock
BBC - Ben B. Coffey, Jr.
JWC - J. Wallace Coffey
WGC - William G. Criswell
DLD - Don L. Davidson
GAF - Gilbert A. Foster
TAF - Tim A. Furr
MLG - Murray L. Gardler
RDH - Ron D. Hoff
RJH - R. John Henderson
JAK - J. Anthony Koella
RLK - Richard L. Knight
RM - Rad Mayfield
MLM - Margaret L. Mann
OKM - O. Knox Martin
FJM - F. Joseph McLaughlin
SNM - Susan N. McWhirter
DoM - Dollyann Myers
DN - Dick Newton
CPN - Charles P. Nicholson
JWN - Jerry W. Nagel
RWP - Robert W. Peeples
WRP - William R. Peeples
VBR - Virginia B. Reynolds
JPR - John P. Rumancik
RWS - Richard W. Simmers
CAS - Chris A. Sloan
BHS - Barbara H. Stedman
SJS - Stephen J. Stedman
BHW - Barbara H. Wilson
DLW - Dick L. Whittington
MGW - Martha G. Waldron
TJW - Terry J. Witt
LVZ - Linda V. Zempel

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NOTICE TO RESEARCHERS

Several references in this issue include dates later than the cover date of December 1993. The journal is behind schedule and it has been necessary to use material which, in some cases, was submitted and accepted later in the year.

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